

Claims:

1. An ophthalmologic device, comprising:

- a first light projector for projection of a beam of rays through a cross-sectional portion of an eye, in particular through a cross-sectional portion
5 of the cornea of the eye,

- first image-capturing means for capturing and storing a cross-sectional image of at least one sub-area of the cross-sectional portion, illuminated by the first light projector, from a first position outside the beam of rays, which means are disposed in Scheimpflug configuration with respect to
10 the beam of rays, and

- second image-capturing means for capturing a view image of the eye and for storing the captured view image assigned to the captured cross-sectional image,

wherein

- the second image-capturing means are set up to capture and store
15 the view image in such a way that the view image comprises an image of the cross-sectional portion illuminated by the first light projector, and

- the device comprises processing means for positioning the stored cross-sectional image relative to the eye on the basis of the stored assigned
20 view image.

2. The device according to claim 1, wherein the processing means are designed to position the stored cross-sectional image relative to the previously stored cross-sectional images of the eye on the basis of the stored assigned view image.

3. The device according to claim 1, wherein the processing means are set up to determine the thickness of the cross-sectional portion, illuminated by the first light projector, of the eye on the basis of the stored view image.

5 4. The device according to claim 1, wherein the second image-capturing means and the first light projector are disposed such that the optic axis of the second image-capturing means coincides with the beam of rays running through the cross-sectional portion.

5. The device according to claim 1, wherein the first and the second image-capturing means are disposed such that their optic axes are situated in a
10 common plane.

6. The device according to claim 1, wherein the first and the second image-capturing means comprise a common image converter, and the first image-capturing means comprise ray-redirecting optical elements, the ray-redirecting optical elements being disposed such that, for generation of the
15 cross-sectional image, light beams are redirected to the common image converter.

7. The device according to claim 1, wherein the first and second image-capturing means comprise a common image converter, and the second image-capturing means comprise ray-redirecting optical elements, the ray-redirecting optical elements being disposed such that light beams are
20 redirected to the common image converter for generation of the view image.

8. The device according to claim 1, wherein the first image-capturing means are set up to capture and store a second cross-sectional image of the sub-area of the cross-sectional portion illuminated by the first light projector,
25 from a second position outside the beam of rays simultaneously with the capturing of the first cross-sectional image, the first position and the second position lying on different sides of a plane situated in the beam of rays.

9. The device according to claim 8, wherein the first image-capturing means comprise an image converter, and the first image-capturing means

comprise ray-redirecting optical elements, the first of the ray-redirecting optical elements being disposed at the first position in such a way that light beams are redirected to the image converter for generation of a first cross-sectional image, and second of the ray-redirecting optical elements being disposed at
5 the second position in such a way that light beams are redirected to the image converter for generation of the second cross-sectional image.

10. The device according to claim 1, wherein it comprises one or more additional second light projectors for projection of light markers on the eye, and the second image-capturing means are synchronized with the first
10 light projector and with the second light projectors in such a way that, during the capturing and storing of the view image of the eye, the image of the cross-sectional portion illuminated by the first light projector and an image of the light markers projected by the second light projectors are co-captured and co-stored.

11. The device according to claim 1, wherein it comprises a screen
15 element with a visible pattern, which screen element is disposed such that the visible pattern is situated on a side of the screen element turned toward the eye during application of the device, and the screen element being disposed such that the beam of rays is able to be projected unimpeded through the cross-sectional portion of the eye, and such that the cross-sectional image and the
20 view image are able to be captured unimpeded by the first, respectively second, image-capturing means.

12. The device according to claim 1, wherein it comprises drive means to rotate the first light projector and the first and the second image-capturing means substantially about a normal to the surface of the eye turned
25 toward the first light projector or to shift them substantially perpendicular to this normal.

13. The device according to claim 1, wherein the first light projector is designed such that it projects the beam of rays in the form of a light slit.

14. An ophthalmologic measuring method, comprising:

- projecting a beam of rays through a cross-sectional portion of an eye, in particular through a cross-sectional portion of the cornea of the eye, by means of a first light projector,

5 - capturing and recording a cross-sectional image of at least one sub-area of the cross-sectional portion, illuminated by the first light projector, from a first position outside the beam of rays, by means of first image-capturing means which are disposed in Scheimpflug configuration with respect to the beam of rays, and

10 - capturing a view image of the eye and storing the captured view image assigned to the captured cross-sectional image, by means of second image-capturing means,

characterized by

15 - capturing and storing of the view image in such a way that the view image comprises an image of the cross-sectional portion illuminated by the first light projector, and

- determining the position of the stored cross-sectional image relative to the eye on the basis of the stored assigned view image.

20 15. The method according to claim 14, wherein the stored cross-sectional image is positioned relative to the previously stored cross-sectional images of the eye on the basis of the stored assigned view image.

16. The method according to claim 14, wherein the thickness of the cross-sectional portion of the eye illuminated by the first light projector is determined on the basis of the stored view image.

25 17. The method according to claim 14, wherein the second image-capturing means and the first light projector are disposed such that the optic axis of the second image-capturing means coincides with the beam of rays running through the cross-sectional portion.

18. The method according to claim 14, wherein the first image-capturing means and the second image-capturing means are disposed such that their optic axes lie in a common plane.

19. The method according to claim 14, wherein the first image-capturing means are provided with ray-redirecting optical elements, the ray-redirecting optical elements being disposed such that for generation of the cross-sectional image light beams are redirected to an image converter used jointly with the second image-capturing means.

20. The method according to claim 14, wherein the second image-capturing means are provided with ray-redirecting optical elements, the ray-redirecting optical elements being disposed such that for generation of the view image light beams are redirected to an image converter used jointly with the first image-capturing means.

21. The method according to claim 14, wherein simultaneously with the capturing of the first cross-sectional image a second cross-sectional image is captured of the sub-area of the cross-sectional portion, illuminated by the first light projector, by means of the first image-capturing means from a second position outside the beam of rays and is stored, the first position and the second position being established on different sides of a plane situated in the beam of rays.

22. The method according to claim 21, wherein first ray-redirecting optical elements of the first image-capturing means are disposed at the first position in such a way that for generating the first cross-sectional image they redirect light beams to an image converter of the first image-capturing means, and second ray-redirecting optical elements of the first image-capturing means are disposed at the second position in such a way that for generating the second cross-sectional image they redirect light beams to the image converter of the first image-capturing means.

23. The method according to claim 14, wherein light markers are projected on the eye by means of one or more additional second light

projectors, and the second image-capturing means are synchronized with the first light projector and with the second light projectors in such a way that during the capturing and storing of the view image of the eye, the image of the cross-sectional portion illuminated by the first light projector and an image of the light markers projected by the second light projectors are co-captured and co-stored.

24. The method according to claim 14, wherein a screen element provided with a visible pattern is disposed such that the visible pattern is turned toward the eye, and the beam of rays is projected unimpeded through the cross-sectional portion of the eye, and the cross-sectional image and the view image are captured by the first, respectively second, image-capturing means in an unimpeded way.

25. The method according to claim 14; wherein the first light projector and the first and the second image-capturing means are rotated substantially about a normal to the surface of the eye turned toward the first light projector or are shifted substantially perpendicular to this normal.

26. The method according to claim 14, wherein the first light projector projects the beam of rays in the form of a light slit.

27. The method according to claim 14, wherein the second image-capturing means are disposed such that their optic axis coincides with the optic axis of the eye or runs substantially parallel to the optic axis of the eye.

28. The method according to claim 14, wherein the second image-capturing means are disposed such that their optic axis coincides with the line of vision of the eye or runs substantially parallel to the line of vision of the eye.